specific topic.

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FILE 'HOME' ENTERED AT 15:10:34 ON 29 MAR 2001

=> file biosis caplus embase cancerlit medline

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FULL ESTIMATED COST	0.15	0.15

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FILE 'CANCERLIT' ENTERED AT 15:10:53 ON 29 MAR 2001

FILE 'MEDLINE' ENTERED AT 15:10:53 ON 29 MAR 2001

=> s (alpha2u globulin)

L1 169 (ALPHA2U GLOBULIN)

=> s (muscle type fatty acid)

L2 0 (MUSCLE TYPE FATTY ACID)

=> s l1 and muscle?

L3 0 L1 AND MUSCLE?

=> s (major urinary protein)

4 FILES SEARCHED...
L4 743 (MAJOR URINARY PROTEIN)

=> s l4 and muscle

L5 4 L4 AND MUSCLE

=> d l5 1-4 all

L5 ANSWER 1 OF 4 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1996:106035 BIOSIS
DN PREV199698678170
TI Hepatic overexpression of insulin-like growth factor-II in adulthood increases basal and insulin-stimulated glucose disposal in conscious mice.
AU Rossetti, Luciano (1); Barzilai, Nir; Chen, Wei; Harris, Thomas; Yang, Deyun; Rogler, Charles E.
CS (1) Div. Endocrinol., Dep. Medicine, Albert Einstein Coll. Medicine, 1300 Morris Park Ave., Bronx, NY 10461 USA
SO Journal of Biological Chemistry, (1996) Vol. 271, No. 1, pp. 203-208. ISSN: 0021-9258.
DT Article
LA English
AB The physiological role of circulating insulin-like growth factor-II

although HGP was similarly inhibited by insulin, phosphoenolpyruvate gluconeogenesis was enhanced and accounted for a larger portion of HGP (64% versus apprx 40% in control mice). Our data suggest that the persistence of circulating IGF-II in adult mice to levels commonly observed in adult humans (50-70 nm) causes a marked improvement in peripheral (skeletal **muscle**) insulin action, which is not due to changes in body composition. These results suggest that circulating IGF-II may exert a regulatory role on insulin sensitivity and body composition in humans.

CC Genetics and Cytogenetics - Animal 03506
Clinical Biochemistry; General Methods and Applications 10006
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Lipids 10066
Biochemical Studies - Carbohydrates 10068
Metabolism - General Metabolism; Metabolic Pathways *13002
Metabolism - Carbohydrates *13004
Metabolism - Lipids *13006
Digestive System - Physiology and Biochemistry *14004
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies *15002
Urinary System and External Secretions - Physiology and Biochemistry *15504
Endocrine System - General *17002
Endocrine System - Pancreas *17008
Muscle - Physiology and Biochemistry *17504

BC Muridae *86375

IT Major Concepts
Blood and Lymphatics (Transport and Circulation); Digestive System (Ingestion and Assimilation); Endocrine System (Chemical Coordination and Homeostasis); Metabolism; Muscular System (Movement and Support); Urinary System (Chemical Coordination and Homeostasis)

IT Chemicals & Biochemicals
INSULIN; FACTOR-II; GLUCOSE; LACTATE; PHOSPHOENOLPYRUVATE

IT Miscellaneous Descriptors
FREE FATTY ACID; GLUCOSE; GLUCOSE CLEARANCE; HEPATIC GLUCOSE PRODUCTION; INSULIN SENSITIVITY; LACTATE; PHOSPHOENOLPYRUVATE GLUCONEOGENESIS; PLASMA; SKELETAL **MUSCLE** INSULIN ACTION; TRANSGENIC MOUSE

ORGN Super Taxa
Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia

ORGN Organism Name
Muridae (Muridae)

ORGN Organism Superterms
animals; chordates; mammals; nonhuman vertebrates; nonhuman mammals; rodents; vertebrates

RN 9004-10-8 (INSULIN)
68-19-9Q (FACTOR-II)
9001-26-7Q (FACTOR-II)
50-99-7 (GLUCOSE)
113-21-3 (LACTATE)
73-89-2 (PHOSPHOENOLPYRUVATE)

L5 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2001 ACS
AN 1996:41569 CAPLUS
DN 124:77363
TI Hepatic overexpression of insulin-like growth factor-II in adulthood increases basal and insulin-stimulated glucose disposal in conscious mice
AU Rossetti, Luciano; Barzilai, Nir; Chen, Wei; Harris, Thomas; Yang, Deyun; Rogler, Charles E.
CS Division Endocrinology, Albert Einstein College Medicine, Bronx, NY, 10461, USA
SO J. Biol. Chem. (1996), 271(1), 203-8
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
CC 2-10 (Mammalian Hormones)
AB The physiol. role of circulating insulin-like growth factor-II (IGF-II) in adult humans is poorly understood. The authors recently generated an IGF-II transgenic murine model of persistent IGF-II prodn. (plasma IGF-II .apprx.30-fold increased above normal) through overexpression of the transgene driven by the **major urinary protein** promoter. To det. whether in vivo insulin action is improved in these

exert a regulatory role on insulin sensitivity and body compn. in humans.
ST liver IGF II insulin glucose
IT Blood sugar
Gluconeogenesis
Glycolysis
Liver
(hepatic overexpression of IGF-II in adulthood increases basal and insulin-stimulated glucose disposal in conscious mice)
IT Biological transport
(absorption, hepatic overexpression of IGF-II in adulthood increases basal and insulin-stimulated glucose disposal in conscious mice)
IT 9004-10-8, Insulin, biological studies
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(hepatic overexpression of IGF-II in adulthood increases basal and insulin-stimulated glucose disposal in conscious mice)
IT 67763-97-7, IGF-II
RL: BAC (Biological activity or effector, except adverse); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(hepatic overexpression of IGF-II in adulthood increases basal and insulin-stimulated glucose disposal in conscious mice)
IT 50-21-5, Lactic acid, biological studies 50-99-7, D-Glucose, biological studies 138-08-9, Phosphoenolpyruvic acid
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(hepatic overexpression of IGF-II in adulthood increases basal and insulin-stimulated glucose disposal in conscious mice)
IT 9005-79-2, Glycogen, biological studies
RL: MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(hepatic overexpression of IGF-II in adulthood increases basal and insulin-stimulated glucose disposal in conscious mice)

L5 ANSWER 3 OF 4 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.
AN 96023565 EMBASE
DN 1996023565
TI Hepatic overexpression of insulin-like growth factor-II in adulthood increases basal and insulin-stimulated glucose disposal in conscious mice.
AU Rossetti L.; Barzilai N.; Chen W.; Harris T.; Yang D.; Rogler C.E.
CS Div. of Endocrinology, Dept. of Medicine, Albert Einstein College of Medicine, 1300 Morris Park Ave.,Bronx, NY 10461, United States
SO Journal of Biological Chemistry, (1996) 271/1 (203-208).
ISSN: 0021-9258 CODEN: JBCHA3
CY United States
DT Journal; Article
FS 003 Endocrinology
029 Clinical Biochemistry
LA English
SL English
AB The physiological role of circulating insulin-like growth factor-II (IGF-II) in adult humans is poorly understood. We recently generated an IGF-II transgenic murine model of persistent IGF-II production (plasma IGF-II .apprx.30- fold increased above normal) through overexpression of the transgene driven by the **major urinary protein** promoter (Rinderknecht, E, and Humbel, R. E. (1978) J. Biol. Chem. 269, 13779-13784). To determine whether in vivo insulin action is improved in these transgenic mice, we performed euglycemic insulin (18 milliunits/kg .cntdot. min) clamp studies in conscious IGF-II transgenic and in age- and weight-matched control mice. Plasma glucose and insulin concentrations were significantly lower in the IGF-II transgenic compared with both control groups. Despite decreased plasma glucose concentration, basal hepatic glucose production (HGP) and glucose clearance were increased. During the insulin clamp studies in IGF-II transgenic mice compared with control mice (a) the rates of glucose infusion and glucose uptake were increased by .apprx.65 and .apprx.55%, respectively; (b) glycolysis was increased by .apprx.12% while glycogen synthesis was .apprx.2-fold higher; (c) while the suppression of plasma free fatty acid was similar, the increment in plasma lactate concentration was significantly higher; (d) although HGP was similarly inhibited by insulin, phosphoenolpyruvate gluconeogenesis was enhanced and accounted for a larger portion of HGP (64% versus .apprx.40% in control mice). Our data suggest that the persistence of circulating IGF-II in adult mice to levels commonly observed in adult humans (50-70 nM) causes a marked improvement in

insulin blood level
mouse
nonhuman
priority journal
promoter region
transgene
transgenic mouse
Drug Descriptors:
*insulin
*somatomedin b: EC, endogenous compound
glucose: EC, endogenous compound
lactic acid: EC, endogenous compound
RN (insulin) 9004-10-8; (somatomedin b) 63774-77-6, 67763-97-7; (glucose) 50-99-7, 84778-64-3; (lactic acid) 113-21-3, 50-21-5

L5 ANSWER 4 OF 4 MEDLINE
AN 96132904 MEDLINE
DN 96132904
TI Hepatic overexpression of insulin-like growth factor-II in adulthood increases basal and insulin-stimulated glucose disposal in conscious mice.
AU Rossetti L; Barzilai N; Chen W; Harris T; Yang D; Rogler C E
CS Division of Endocrinology, Albert Einstein College of Medicine, Bronx, New York 10461, USA.
NC R029-DK 45024 (NIDDK)
R01-DK 48321 (NIDDK)
R01-CA 56076 (NCI)
+
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1996 Jan 5) 271 (1) 203-8.
Journal code: HIV. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199604
AB The physiological role of circulating insulin-like growth factor-II (IGF-II) in adult humans is poorly understood. We recently generated an IGF-II transgenic murine model of persistent IGF-II production (plasma IGF-II approximately 30-fold increased above normal) through over-expression of the transgene driven by the **major urinary protein** promoter (Rinderknecht, E., and Humbel, R. E. (1978) J. Biol. Chem. 269, 13779-13784). To determine whether in vivo insulin action is improved in these transgenic mice, we performed euglycemic insulin (18 milliunits/kg.min) clamp studies in conscious IGF-II transgenic and in age- and weight-matched control mice. Plasma glucose and insulin concentrations were significantly lower in the IGF-II transgenic compared with both control grouoff Despite decreased plasma glucose concentration, basal hepatic glucose production (HGP) and glucose clearance were increased. During the insulin clamp studies in IGF-II transgenic mice compared with control mice (a) the rates of glucose infusion and glucose uptake were increased by approximately by 65 and approximately 55%, respectively; (b) glycolysis was increased by approximately 12% while glycogen synthesis was approximately 2-fold higher; (c) while the suppression of plasma free fatty acid was similar, the increment in plasma lactate concentration was significantly higher; (d) although HGP was similarly inhibited by insulin, phosphoenolpyruvate gluconeogenesis was enhanced and accounted for a larger portion of HGP (64% versus approximately 40% in control mice). Our data suggest that the persistence of circulating IGF-II in adult mice to levels commonly observed in adult humans (50-70 nM) causes a marked improvement in peripheral (skeletal **muscle**) insulin action, which is not due to changes in body composition. These results suggest that circulating IGF-II may exert a regulatory role on insulin sensitivity and body composition in humans.
CT Check Tags: Animal; Human; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Adult
Glucokinase: ME, metabolism
*Glucose: ME, metabolism
Glucose Clamp Technique
Glucose-6-Phosphatase: ME, metabolism
Glycogen: ME, metabolism
Glycogen Synthase: ME, metabolism
*Insulin: YF, metabolism

=> d his

(FILE 'HOME' ENTERED AT 15:10:34 ON 29 MAR 2001)

FILE 'BIOSIS, CAPLUS, EMBASE, CANCERLIT, MEDLINE' ENTERED AT 15:10:53 ON 29 MAR 2001

L1 169 S (ALPHA2U GLOBULIN)
L2 0 S (MUSCLE TYPE FATTY ACID)
L3 0 S L1 AND MUSCLE?
L4 743 S (MAJOR URINARY PROTEIN)
L5 4 S L4 AND MUSCLE

=> s l1 and heart?

L6 4 L1 AND HEART?

=> d l6 1-4 all

L6 ANSWER 1 OF 4 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1999:505492 BIOSIS
DN PREV199900505492
TI Effects of a thirteen-week inhalation exposure to ethyl tertiary butyl ether on Fischer-344 rats and CD-1 mice.
AU Medinsky, M. A.; Wolf, D. C.; Cattley, R. C.; Wong, B. (1); Janszen, D. B.; Farris, G. M.; Wright, G. A.; Bond, J. A.
CS (1) Chemical Industry Institute of Toxicology, 6 Davis Drive, Research Triangle Park, NC, 27709-2137 USA
SO Toxicological Sciences, (Sept., 1999) Vol. 51, No. 1, pp. 108-118. ISSN: 1096-6080.
DT Article
LA English
SL English
AB The 1990 Clean Air Act Amendments require that oxygenates be added to automotive fuels to reduce emissions of carbon monoxide and hydrocarbons. One potential oxygenate is the aliphatic ether ethyl tertiary butyl ether (ETBE). Our objective was to provide data on the potential toxic effects of ETBE. Male and female Fisher 344 rats and CD-1 mice were exposed to 0 (control), 500, 1750, or 5000 ppm of ETBE for 6 h/day and 5 days/wk over a 13-week period. ETBE exposure had no effect on mortality and body weight with the exception of an increase in body weights of the female rats in the 5000-ppm group. No major changes in clinical pathology parameters were noted for either rats or mice exposed to ETBE for 6 (rats only) or 13 weeks. Liver weights increased with increasing ETBE-exposure concentration for both sexes of rats and mice. Increases in kidney, adrenal, and **heart** (females only) weights were noted in rats. Degenerative changes in testicular seminiferous tubules were observed in male rats exposed to 1750 and 5000 ppm but were not seen in mice. This testicular lesion has not been reported previously for aliphatic ethers. Increases in the incidence of regenerative foci, rates of renal cell proliferation, and **alpha2u-globulin** containing protein droplets were noted in the kidneys of all treated male rats. These lesions are associated with the male rat-specific syndrome of **alpha2u-globulin** nephropathy. Increases in the incidence of centrilobular hepatocyte hypertrophy and rates of hepatocyte cell proliferation were seen in the livers of male and female mice in the 5000-ppm group, consistent with a mitogenic response to ETBE. These two target organs for ETBE toxicity, mouse liver and male rat kidney, have also been reported for methyl tertiary butyl ether and unleaded gasoline.
CC Toxicology - General; Methods and Experimental *22501
Cytology and Cytochemistry - Animal *02506
Digestive System - General; Methods *14001
Cardiovascular System - General; Methods *14501
Toxicology - Environmental and Industrial Toxicology *22506
Public Health: Environmental Health - Air, Water and Soil Pollution *37015
Urinary System and External Secretions - General; Methods *15501
Reproductive System - General; Methods *16501
Endocrine System - General *17002
BC Muridae 86375

Animals; Chordates; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Rodents; Vertebrates

L6 ANSWER 2 OF 4 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1998:221180 BIOSIS
DN PREV199800221180
TI **alpha2u-Globulin** is not a bona fide fatty acid-binding protein in the rat kidney.
AU Khan, K. M. Faisal; Sato, Atsushi; Oka, Tatsuzo; Horiuchi, Saburou; Tsugita, Akira; Natori, Yasuo (1)
CS (1) Dep. Nutritional Chem., Sch. Med., Univ. Tokushima, Kuramoto, Tokushima 770 Japan
SO Research Communications in Biochemistry and Cell & Molecular Biology, (1997) Vol. 1, No. 1, pp. 33-42.
ISSN: 1087-111X.
DT Article
LA English
AB It has been reported that the cytosolic fraction of male rat kidneys contains two different fatty acid-binding proteins (FABPs); one is identical to **heart** FABP and the other is proteolytically modified form of **alpha2u-globulin**. Highly purified lysosomes were isolated from the male rat kidney and subjected to immunoblot analysis using antibody against **alpha2u-globulin**. A major immunoreactive band was observed at the position about 1-kDa smaller than that of the authentic **alpha2u-globulin**. Amino acid sequence analysis of the immuno-reactive protein established that the protein represented proteolytically modified **alpha2u-globulin**, lacking N-terminal 9 amino acid residues. The modified **alpha2u-globulin** was found to be the most abundant protein in the lysosomes, amounting to as much as 21% of the total lysosomal proteins. The occurrence of **alpha2u-globulin** in the cytosolic fraction, reported by earlier workers, was shown to be an artifact of isolation procedure. Since FABP must be cytosolic in order to be involved in intracellular transport and metabolism of fatty acids, **alpha2u-globulin** can not be considered as a bonafide member of the FABP superfamily.
CC Urinary System and External Secretions - Physiology and Biochemistry *15504
Cytology and Cytochemistry - Animal *02506
Biochemical Studies - Proteins, Peptides and Amino Acids *10064
Biochemical Studies - Lipids *10066
BC Muridae 86375
IT Major Concepts
Biochemistry and Molecular Biophysics; Urinary System (Chemical Coordination and Homeostasis)
IT Parts, Structures, & Systems of Organisms
kidney: excretory system
IT Chemicals & Biochemicals
alpha-2-u-globulin; fatty acid-binding proteins: cytosolic, lysosomal
ORGN Super Taxa
Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
rat (Muridae)
ORGN Organism Superterms
Animals; Chordates; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Rodents; Vertebrates

L6 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2001 ACS
AN 1997:45898 CAPLUS
DN 126:128429
TI .alpha.2u-Globulin is not a bona fide fatty acid-binding protein in the rat kidney
AU Faisal Khan, K. M.; Sato, Atsushi; Oka, Tatsuzo; Horiuchi, Saburou; Tsugita, Akira; Natori, Yasuo
CS Sch. Med., Univ. Tokushima, Tokushima, 770, Japan
SO Res. Commun. Biochem. Cell Mol. Biol. (1997), 1(1), 33-42
CODEN: RCBBFC; ISSN: 1087-111X
PB PJD Publications
DT Journal
LA English
CC 6-3 (General Biochemistry)
Section cross-reference(s): 13
AB It has been reported that the cytosolic fraction of male rat kidneys

Lysosome
(**alpha2u-globulin** is not a bona fide fatty acid-binding protein in the rat kidney)

IT Fatty acid-binding protein
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(**alpha2u-globulin** is not a bona fide fatty acid-binding protein in the rat kidney)

IT Globulins, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(.alpha.2u-globulin; **alpha2u-globulin** is not a bona fide fatty acid-binding protein in the rat kidney)

L6 ANSWER 4 OF 4 MEDLINE
AN 1999425001 MEDLINE
DN 99425001
TI Effects of a thirteen-week inhalation exposure to ethyl tertiary butyl ether on fischer-344 rats and CD-1 mice.
AU Medinsky M A; Wolf D C; Cattley R C; Wong B; Janszen D B; Farris G M; Wright G A; Bond J A
CS Chemical Industry Institute of Toxicology, Research Triangle Park, North Carolina 27709-2137, USA.
SO TOXICOLOGICAL SCIENCES, (1999 Sep) 51 (1) 108-18.
Journal code: CZ1. ISSN: 1096-6080.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199912
EW 19991204
AB The 1990 Clean Air Act Amendments require that oxygenates be added to automotive fuels to reduce emissions of carbon monoxide and hydrocarbons. One potential oxygenate is the aliphatic ether ethyl tertiary butyl ether (ETBE). Our objective was to provide data on the potential toxic effects of ETBE. Male and female Fisher 344 rats and CD-1 mice were exposed to 0 (control), 500, 1750, or 5000 ppm of ETBE for 6 h/day and 5 days/wk over a 13-week period. ETBE exposure had no effect on mortality and body weight with the exception of an increase in body weights of the female rats in the 5000-ppm group. No major changes in clinical pathology parameters were noted for either rats or mice exposed to ETBE for 6 (rats only) or 13 weeks. Liver weights increased with increasing ETBE-exposure concentration for both sexes of rats and mice. Increases in kidney, adrenal, and **heart** (females only) weights were noted in rats. Degenerative changes in testicular seminiferous tubules were observed in male rats exposed to 1750 and 5000 ppm but were not seen in mice. This testicular lesion has not been reported previously for aliphatic ethers. Increases in the incidence of regenerative foci, rates of renal cell proliferation, and **alpha2u-globulin** containing protein droplets were noted in the kidneys of all treated male rats. These lesions are associated with the male rat-specific syndrome of **alpha2u-globulin** nephropathy. Increases in the incidence of centrilobular hepatocyte hypertrophy and rates of hepatocyte cell proliferation were seen in the livers of male and female mice in the 5000-ppm group, consistent with a mitogenic response to ETBE. These two target organs for ETBE toxicity, mouse liver and male rat kidney, have also been reported for methyl tertiary butyl ether and unleaded gasoline.
CT Check Tags: Animal; Comparative Study; Female; Male; Support, Non-U.S. Gov't
Administration, Inhalation
*Air Pollutants, Environmental: TO, toxicity
Alpha-Globulins: ME, metabolism
Atmosphere Exposure Chambers
Body Weight: DE, drug effects
Bone Marrow: DE, drug effects
Bone Marrow: PA, pathology
Bromodeoxyuridine: ME, metabolism
Cell Division: DE, drug effects
*Ethyl Ethers: TO, toxicity
Kidney: DE, drug effects
Kidney: ME, metabolism
Kidney: PA, pathology

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=> d his

     (FILE 'HOME' ENTERED AT 15:10:34 ON 29 MAR 2001)

     FILE 'BIOSIS, CAPLUS, EMBASE, CANCERLIT, MEDLINE' ENTERED AT 15:10:53 ON
     29 MAR 2001
L1          169 S (ALPHA2U GLOBULIN)
L2            0 S (MUSCLE TYPE FATTY ACID)
L3            0 S L1 AND MUSCLE?
L4          743 S (MAJOR URINARY PROTEIN)
L5            4 S L4 AND MUSCLE
L6            4 S L1 AND HEART?

=> s l4 and heart

L7            7 L4 AND HEART

=> d l7 1-7 all


L7   ANSWER 1 OF 7  BIOSIS  COPYRIGHT 2001 BIOSIS
AN   1991:234244  BIOSIS
DN   BA91:125704
TI   PRIMARY STRUCTURE AND CELLULAR DISTRIBUTION OF TWO FATTY ACID-BINDING
     PROTEINS IN ADULT RAT KIDNEYS.
AU   KIMURA H; ODANI S; NISHI S-I; SATO H; ARAKAWA M; ONO T
CS   DEP. BIOCHEM., NIIGATA UNIV. SCH. MED., NIIGATA 951, JPN.
SO   J BIOL CHEM, (1991) 266 (9), 5963-5972.
     CODEN: JBCHA3. ISSN: 0021-9258.
FS   BA; OLD
LA   English
AB   Fatty acid-binding proteins (FABPs) were purified from the kidneys of
     female and male rats and characterized by primary structure and
     histological distribution in the kidney. Two FABPs (14 and 15.5 kDa) were
     found in male rat kidney cytosol whereas only 14-kDa FABP could be
     recognized in female rat kidneys throughout the purification steps. The
     amino acid sequence of the 14-kDa FABP was identical to that of rat
     heart FABP deduced from the cDNA sequence (Heuckeroth, R. O.,
     Birkenmeier, E. H., Levin, M. S., and Gordon, J. I. (1987) J. Biol. Chem.
     262, 9709-9717). Structural analysis of the male-specific 15.5-kDa FABP
     identified this second FABP as a proteolytically modified form of
     .alpha.2u-globulin, an 18.7-kDa major urinary
     protein of adult male rats (Unterman, R. D., Lynch, K. R.,
     Nakhasi, H. L., Dolan, K. P., Hamilton, J. W., Cohn, D. V., and Feigelson,
     P. (1981) Proc. Natl. Acad. Sci. U.S.A. 78, 3478-3482) which shares a
     common ancestry with a number of hydrophobic ligand-binding proteins such
     as serum retinol-binding proteins. Immunohistochemical investigation
     disclosed that heart-type FABP (14-kDa FABP) is localized in the
     cytoplasm of the epithelia of the distal tubules in both male and female
     rat kidneys whereas 15.5-kDa FABP immunostaining was observed
     predominantly in the endosomes or lysosomes of proximal tubules in male
     rat kidneys. These results suggest strongly the functional divergence of
     two FABPs in the rat kidney.
CC   Microscopy Techniques - Cytology and Cytochemistry  01054
     Cytology and Cytochemistry - Animal  *02506
     Genetics and Cytogenetics - Sex Differences  *03510
     Biochemical Studies - Proteins, Peptides and Amino Acids  10064
     Biophysics - Molecular Properties and Macromolecules  10506
     Anatomy and Histology, General and Comparative - Microscopic and
     Ultramicroscopic Anatomy  *11108
     Urinary System and External Secretions - Physiology and Biochemistry
     *15504
BC   Muridae  86375
IT   Miscellaneous Descriptors
        SEX DIFFERENCES HISTOLOGY MOLECULAR SEQUENCE DATA AMINO ACID SEQUENCE

L7   ANSWER 2 OF 7  CAPLUS  COPYRIGHT 2001 ACS
AN   2000:497084  CAPLUS
DN   133:191444
TI   Cloning, isolation and characterization of cytokine signalling-2
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signal-transduction pathway. Here we use mice unable to express SOCS-2 to examine its function in vivo. SOCS-2-/- mice grew significantly larger than their wild-type littermates. Increased body wt. became evident after weaning and was assocd. with significantly increased long bone lengths and the proportionate enlargement of most organs. Characteristics of deregulated growth hormone and insulin-like growth factor-I (IGF-I) signaling, including decreased prodn. of **major urinary protein**, increased local IGF-I prodn., and collagen accumulation in the dermis, were obsd. in SOCS-2-deficient mice, indicating that SOCS-2 may have an essential neg. regulatory role in the growth hormone/IGF-I pathway.

ST SOCS2 protein deficiency gigantism

IT Proteins, specific or class
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(MUP (**major urinary protein**); gigantism in mice lacking suppressor of cytokine signaling-2)

IT Proteins, specific or class
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(SOCS-2 (suppressor of cytokine signaling-2); gigantism in mice lacking suppressor of cytokine signaling-2)

IT Skin
(dermis, collagen accumulation in; gigantism in mice lacking suppressor of cytokine signaling-2)

IT Sex differences
Signal transduction, biological
(gigantism in mice lacking suppressor of cytokine signaling-2)

IT Growth disorders, animal
(gigantism; gigantism in mice lacking suppressor of cytokine signaling-2)

IT Adipose tissue
Bladder
Heart
Liver
Lung
Testis
(growth in wt. of; gigantism in mice lacking suppressor of cytokine signaling-2)

IT Collagens, biological studies
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(in dermis; gigantism in mice lacking suppressor of cytokine signaling-2)

IT 9002-72-6, Growth hormone 67763-96-6, Insulin-like growth factor I
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(gigantism in mice lacking suppressor of cytokine signaling-2)

RE.CNT 25

RE

(1) Adams, T; J Biol Chem 1998, V273, P1285 CAPLUS
(2) Alexander, W; Blood 1996, V87, P2162 CAPLUS
(3) Alexander, W; EMBO J 1995, V14, P5569 CAPLUS
(4) Daughaday, W; Endocrinology 1995, P303
(5) Davey, H; Mol Cell Endocrinol 1999, V158, P111 CAPLUS
(6) Dey, B; J Biol Chem 1998, V273, P24095 CAPLUS
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FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9927363	A1	19990603	WO 1998-JP5319	19981126
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	JP 11242026	A2	19990907	JP 1998-331828	19981124
	AU 9912603	A1	19990615	AU 1999-12603	19981126
	EP 1043587	A1	20001011	EP 1998-955936	19981126
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRAI	JP 1997-323684	19971126			
	WO 1998-JP5319	19981126			

AB A diagnostic method is described for examg. kidney diseases by immunol. detecting a fatty acid-binding protein derived from kidney tissues contained in the specimen sampled from mammals other than rodents. This method can provide examn. results contg. information highly useful in diagnosing the prognosis of kidney diseases hardly obtained by the existing methods. Based on the results obtained by this method, an appropriate therapy can be selected by taking the risk concerning the prognosis into consideration. This method is applicable not only to kidney tissue samples, but also to urine samples, and therefore, the examn. can be conveniently and efficiently performed.

ST kidney disease diagnosis prognosis immunoassay staining; fatty acid binding protein renal failure

IT Fatty acid-binding protein
RL: ANT (Analyte); BUU (Biological use, unclassified); PUR (Purification or recovery); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(L-FABP (liver fatty acid-binding protein), human, mouse, rabbit; method for examg. kidney diseases)

IT Proteins (specific proteins and subclasses)
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MUP (**major urinary protein**); method for examg. kidney diseases)

IT Antibodies
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(anti-mouse L-FABP, anti-mouse H-FABP, anti-human L-FABP,; method for examg. kidney diseases)

IT Basement membrane
(glomerular; method for examg. kidney diseases)

IT Phosphoproteins
RL: ANT (Analyte); BUU (Biological use, unclassified); PUR (Purification or recovery); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(h-FABP (**heart** fatty acid-binding protein), mouse; method for examg. kidney diseases)

IT Renal fibrosis
(interstitial; method for examg. kidney diseases)

IT Blood analysis
Diagnosis
Disease models
Distal tubule (kidney)
ELISA (immunosorbent assay)
IgA nephropathy
Immunological staining
Kidney
Kidney diseases
Mammal (Mammalia)
Mouse
Polyacrylamide gel electrophoresis
Prognosis
Proximal tubule (kidney)

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(2) Uchida; Febs Lett 1995, V357(2), P165 CAPLUS

L7 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2001 ACS
AN 1997:357084 CAPLUS
DN 127:63583
TI Epigenetic inheritance in the mouse
AU Roemer, Irmgard; Reik, Wolf; Dean, Wendy; Klose, Joachim
CS Institut Humangenetik, Humboldt Universitat, Institut Toxikologie Embryopharmakologie, Freie Universitat, Berlin, D-14195, Germany
SO Curr. Biol. (1997), 7(4), 277-280
CODEN: CUBLE2; ISSN: 0960-9822
PB Current Biology
DT Journal
LA English
CC 13-3 (Mammalian Biochemistry)
Section cross-reference(s): 3
AB Acquired epigenetic modifications, such as DNA methylation or stable chromatin structures, are not normally thought to be inherited through the germline to future generations in mammals. Studies in the mouse have shown that specific manipulations of early embryos, such as nuclear transplantation, can result in altered patterns of gene expression and induce phenotypic alterations at later stages of development. These effects are consistent with acquired epigenetic modifications that are somatically heritable, such as DNA methylation. Repression and DNA methylation of genes encoding **major urinary proteins**, repression of the gene encoding olfactory marker protein, and reduced body wt. can be exptl. induced by nuclear transplantation in early embryos. Strikingly, we now report that these acquired phenotypes are transmitted to most of the offspring of manipulated parent mice. This is the first demonstration of epigenetic inheritance of specific alterations of gene expression through the germline. These observations establish a mammalian model for transgenerational effects that are important for human health, and also raise the question of the evolutionary importance of epigenetic inheritance.
ST epigenetic inheritance DNA methylation gene expression
IT Genes (animal)
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(Mup, for **major urinary proteins**; epigenetic inheritance in mouse)
IT Genes (animal)
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(Omp, for olfactory marker protein; epigenetic inheritance in mouse)
IT Embryo (animal)
(early 1-5 all; epigenetic inheritance in mouse)
IT Brain
DNA methylation
Gene expression
Heart
Inheritance (genetic)
Liver
(epigenetic inheritance in mouse)
IT Genetics
(imprinting; epigenetic inheritance in mouse)
IT Transformation (genetic method)
(mouse; epigenetic inheritance in mouse)
IT Body weight
(reduced; epigenetic inheritance in mouse)

L7 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2001 ACS
AN 1991:577629 CAPLUS
DN 115:177629
TI Primary structure and cellular distribution of two fatty acid-binding proteins in adult rat kidneys
AU Kimura, Hideki; Odani, Shoji; Nishi, Shinichi; Sato, Hirokazu; Arakawa, Masaaki; Ono, Teruo
CS Sch. Med., Niigata Univ., Niigata, 951, Japan
SO J. Biol. Chem. (1991), 266(9), 5963-72
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
CC 6-3 (General Biochemistry)

These results suggest strongly the functional divergence of two FABPs in the rat kidney.

ST fatty acid binding protein sequence kidney; kidney FABP cellular distribution

IT Kidney, composition
(fatty acid-binding protein 14,000-mol.-wt. and 15,500-mol-wt. forms of, amino acid sequence and cellular distribution of)

IT **Heart**, composition
(fatty acid-binding protein 14,000-mol.-wt. protein of, protein of kidney identity with)

IT Sex
(fatty acid-binding proteins cellular distribution in kidney in relation to)

IT Protein sequences
(of fatty acid-binding protein 14,000-mol.-wt. form, of kidney, complete)

IT Disulfide group
(of fatty acid-binding protein 15,500-mol.-wt. form of kidney, localization of)

IT Protein sequences
(of fatty acid-binding protein 15,500-mol.-wt. form, of kidney, complete)

IT Proteins, specific or class
RL: BIOL (Biological study)
(FABP (fatty acid-binding protein), kidney, 14,000-mol.-wt., amino acid sequence and cellular distribution of, sex in relation to)

IT Proteins, specific or class
RL: BIOL (Biological study)
(FABP (fatty acid-binding protein), kidney, 15,500-mol.-wt., amino acid sequence and cellular distribution of, sex in relation to)

IT Globulins, properties
RL: PRP (Properties)
(.alpha.2u-, fatty acid-binding protein 15,500-mol.-wt. form of kidney amino acid sequence homol. with)

IT 78849-32-8, .alpha.2u-Globulin (rat liver protein moiety reduced) 136602-37-4, .alpha.2u-Globulin (rat kidney) 136626-46-5, Protein FABP (rat kidney 14.0-kilodalton)
RL: PRP (Properties)
(amino acid sequence of)

L7 ANSWER 6 OF 7 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.

AN 91303044 EMBASE

DN 1991303044

TI Primary structure and cellular distribution of two fatty acid-binding proteins in adult rat kidneys.

AU Kimura H.; Odani S.; Nishi S.-I.; Sato H.; Arakawa M.; Ono T.

CS Dept. of Biochemistry, Niigata University, School of Medicine, 1-757 Asahimachi-dori,Niigata 951, Japan

SO Journal of Biological Chemistry, (1991) 266/9 (5963-5972).
ISSN: 0021-9258 CODEN: JBCHA3

CY United States

DT Journal; Article

FS 029 Clinical Biochemistry

LA English

SL English

AB Fatty acid-binding proteins (FABPs) were purified from the kidneys of female and male rats and characterized by primary structure and histological distribution in the kidney. Two FABPs (14 and 15.5 kDa) were found in male rat kidney cytosol whereas only 14-kDa FABP could be recognized in female rat kidneys throughout the purification steps. The amino acid sequence of the 14-kDa FABP was identical to that of rat **heart** FABP deduced from the cDNA sequence (Heuckeroth, R.O., Birkenmeier, E.H., Levin, M.S., and Gordon, J.I. (1987) J. Biol. Chem. 262, 9709-9717). Structural analysis of the male-specific 15.5-kDa FABP identified this second FABP as a proteolytically modified form of .alpha.(2u)-globulin, an 18.7-kDa **major urinary protein** of adult male rats (Unterman, R.D., Lynch, K.R., Nakhasi, H.L., Dolan, K.P., Hamilton, J.W., Cohn, D.V., and Feigelson, P. (1981) Proc. Natl. Acad. Sci. U.S.A. 78, 3478-3482) which shares a common ancestry with a number of hydrophobic ligand-binding proteins such as serum retinol-binding proteins. Immunohistochemical investigation disclosed that **heart**-type FABP (14-kDa FABP) is localized in the cytoplasm of the epithelia of the distal tubules in both male and female

L7 ANSWER 7 OF 7 MEDLINE
AN 91170283 MEDLINE
DN 91170283
TI Primary structure and cellular distribution of two fatty acid-binding proteins in adult rat kidneys.
AU Kimura H; Odani S; Nishi S; Sato H; Arakawa M; Ono T
CS Department of Biochemistry, Niigata University School of Medicine, Japan..
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1991 Mar 25) 266 (9) 5963-72.
Journal code: HIV. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199106
AB Fatty acid-binding proteins (FABPs) were purified from the kidneys of female and male rats and characterized by primary structure and histological distribution in the kidney. Two FABPs (14 and 15.5 kDa) were found in male rat kidney cytosol whereas only 14-kDa FABP could be recognized in female rat kidneys throughout the purification steps. The amino acid sequence of the 14-kDa FABP was identical to that of rat **heart** FABP deduced from the cDNA sequence (Heuckeroth, R. O., Birkenmeier, E. H., Levin, M. S., and Gordon, J. I. (1987) J. Biol. Chem. 262, 9709-9717). Structural analysis of the male-specific 15.5-kDa FABP identified this second FABP as a proteolytically modified form of alpha 2u-globulin, an 18.7-kDa **major urinary protein** of adult male rats (Unterman, R. D., Lynch, K. R., Nakhasi, H. L., dolan, K. P., Hamilton, J. W., Cohn, D. V., and Feigelson, P. (1981) Proc. Natl. Acad. Sci. U.S.A. 78, 3478-3482) which shares a common ancestry with a number of hydrophobic ligand-binding proteins such as serum retinol-binding proteins. Immunohistochemical investigation disclosed that **heart**-type FABP (14-kDa FABP) is localized in the cytoplasm of the epithelia of the distal tubules in both male and female rat kidneys whereas 15.5-kDa FABP immunostaining was observed predominantly in the endosomes or lysosomes of proximal tubules in male rat kidneys. These results suggest strongly the functional divergence of two FABPs in the rat kidney.
CT Check Tags: Animal; Female; Male; Support, Non-U.S. Gov't
Amino Acid Sequence
*Carrier Proteins: ME, metabolism
Chromatography, Gel
Chromatography, High Pressure Liquid
Electrophoresis, Polyacrylamide Gel
Immunohistochemistry
*Kidney: ME, metabolism
Kidney: UL, ultrastructure
Microscopy, Electron
Molecular Sequence Data
Myocardium: ME, metabolism
Rats
Sequence Alignment
Sex Factors
CN 0 (fatty acid-binding proteins); 0 (Carrier Proteins)

L4 ANSWER 7 OF 7 MEDLINE
AN 90194139 MEDLINE
DN 90194139
TI A comparison of male rat and **human** urinary proteins: implications for **human** resistance to hyaline droplet nephropathy.
AU Olson M J; Johnson J T; Reidy C A
CS Biomedical Science Department, General Motors Research Laboratories, Warren, Michigan 48090..
SO TOXICOLOGY AND APPLIED PHARMACOLOGY, (1990 Mar 1) 102 (3) 524-36.
Journal code: VWO. ISSN: 0041-008X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199006
AB **alpha 2u**-Globulin (alpha G), the **major urinary protein** of sexually mature male rats, is a key determinant of susceptibility to hyaline droplet nephropathy (HDN) induced by a variety of hydrocarbons in male rats. Arguments against extrapolating renal toxicity and carcinogenicity data for HDN-inducing toxicants from male rats to risk assessment for **humans** rely on the observation that **humans** do not express alpha G. Yet, **human** serum and urine are known to contain proteins coded for by the same gene family that also controls alpha G synthesis in the rat. Therefore, to understand some of the quantitative and qualitative differences between proteins of **human** and male rat urine which confer apparent resistance to HDN in **humans**, urinary proteins of male F344 rats (ca. 3 months old) and normal **human** males were compared by cation exchange, gel filtration, SDS-PAGE, and partially identified by Western blotting. We observed that (1) the protein content of **human** urine is only 1% that of male rat urine; (2) **human** urinary proteins, recovered by (NH4)2SO4 precipitation followed by dialysis, are primarily of high (greater than or equal to 75 kDa) molecular weight (MW) with minor components of 12-66 kDa; (3) male rat urine has little high-MW protein, but is rich in alpha G (18.5 kDa); (4) at pH 5, the most cationic fraction of **human** urinary protein constituted only about 4% of the total while the analogous fraction of rat urine, containing alpha G, contained 26% of total urinary protein; and (5) cationic (at pH 5.0) **human** urinary proteins included small amounts of proteins, e.g., alpha 1-acid glycoprotein, and alpha 1-microglobulin, which are products of the gene family coding for alpha G in rat. Thus, although **humans** excrete trace amounts of proteins similar to alpha G, the very low protein content of **human** urine, the relatively small proportion of cationic to total proteins, and the high MW of the most abundant **human** urinary proteins form a biological basis for suggesting that **humans** are not at risk for the type of fuel and solvent hydrocarbon-induced nephropathy, and the sequelae of such nephropathy, observed in male rats.
CT Check Tags: Animal; Comparative Study; **Human**; Male
Adult
Chromatography, Gel
Chromatography, Ion Exchange
Electrophoresis, Polyacrylamide Gel
*Hyalin: ME, metabolism
***Kidney Diseases: CI, chemically induced**
Kidney Diseases: UR, urine
*Lysosomes: ME, metabolism
Molecular Weight
*Proteinuria: CI, chemically induced
Proteinuria: UR, urine
Rats

4 ANSWER 4 OF 7 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.
AN 90097029 EMBASE
DN 1990097029
TI A comparison of male rat and **human** urinary proteins: Implications for **human** resistance to hyaline droplet nephropathy.
AU Olson M.J.; Johnson J.T.; Reidy C.A.
CS Biomedical Science Department, General Motors Research Laboratories, Warren, MI 48090, United States
SO Toxicology and Applied Pharmacology, (1990) 102/3 (524-536). ISSN: 0041-008X CODEN: TXAPA
CY United States
DT Journal; Article
FS 028 Urology and Nephrology
029 Clinical Biochemistry
035 Occupational Health and Industrial Medicine
052 Toxicology
LA English
SL English
AB .**alpha**.(**2u**)-Globulin (.alpha.G), the **major** **urinary protein** of sexually mature male rats, is a key determinant of susceptibility to hyaline droplet nephropathy (HDN) induced by a variety of hydrocarbons in male rats. Arguments against extrapolating renal toxicity and carcinogenicity data for HDN-inducing toxicants from male rats to risk assessment for **humans** rely on the observation that **humans** do not express .alpha.G. Yet, **human** serum and urine are known to contain proteins coded for by the same gene family that also controls .alpha.G synthesis in the rat. Therefore, to understand some of the quantitative and qualitative differences between proteins of **human** and male rat urine which confer apparent resistance to HDN in **humans**, urinary proteins of male F344 rats (ca. 3 months old) and normal **human** males were compared by cation exchange, gel filtration, SDS-PAGE, and partially identified by Western blotting. We observed that (1) the protein content of **human** urine is only 1% that of male rat urine; (2) **human** urinary proteins, recovered by (NH4)2SO4 precipitation followed by dialysis, are primarily of high(.gtoreq.75 kDa) molecular weight (MW) with minor components of 12-66 kDa; (3) male rat urine has little high-MW protein, but is rich in .alpha.G (18.5 kDa); (4) at pH 5, the most cationic fraction of **human** urinary protein constituted only about 4% of the total while the analogous fraction of rat urine, containing .alpha.G, contained 26% of total urinary protein; and (5) cationic (at pH 5.0) **human** urinary proteins included small amounts of proteins, e.g., .alpha.1-acid glycoprotein, and .alpha.1-microglobulin, which are products of the gene family coding for .alpha.G in rat. Thus, although **humans** excrete trace amounts of proteins similar to .alpha.G, the very low protein content of **human** urine, the relatively small proportion of cationic to total proteins, and the high MW of the most abundant **human** urinary proteins form a biological basis for suggesting that **humans** are not at risk for the type of fuel and solvent hydrocarbon-induced nephropathy, and the sequelae of such nephropathy, observed in male rats.
CT Medical Descriptors:
*hyaline droplet
***kidney disease**
rat
urine
human cell
animal cell
human
nonhuman
male
article
priority journal
Drug Descriptors:
*alpha 1 microglobulin
*orosomucoid
protein
RN (or